

(19) World Intellectual Property
Organization
International Bureau



14 OCT 2004

(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 2003/102133 A3

(51) International Patent Classification⁷: **C08J 7/04**

(21) International Application Number:
PCT/US2003/015192

(22) International Filing Date: 13 May 2003 (13.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/380,231 13 May 2002 (13.05.2002) US

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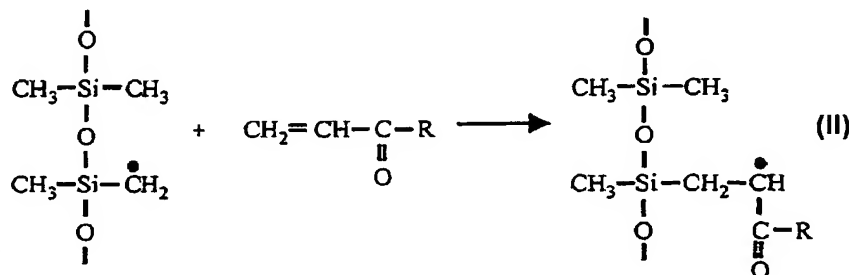
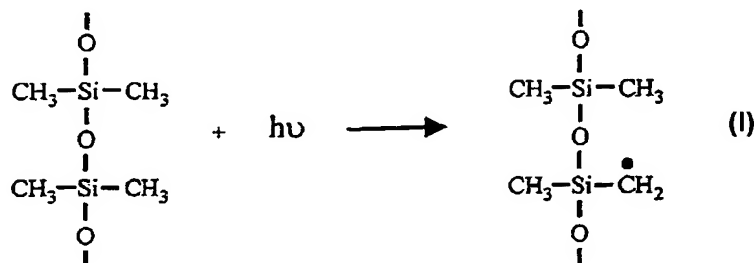
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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: **CHEMICAL MODIFICATIONS TO POLYMER SURFACES AND THE APPLICATION OF POLYMER GRAFTING TO BIOMATERIALS**



R: -OH Acrylic Acid (AA)
 -NH₂ Acrylamide (AM)
 -N(CH₃)₂ Dimethylacrylamide (DMA)
 -OCH₂CH₂OH 2-Hydroxyethylacrylate (HEA)
 -O(CH₂CH₂O)_nCH₃ PEG monomethoxylacrylate (PEG)

(57) Abstract: Polymer-based biomaterials are popular due to ease of fabrication and low costs. However, many polymer substrates have undesirable surface properties. The invention provides a procedure to covalently apply a graft polymer to the surface of a polymer substrate by ultraviolet graft polymerization. The graft polymer is formed from monomers such as PEG, AA, monomethoxy acrylate PEG, HEMA, or DMA. Also, mixed monomers may be used to create the graft and the surface properties of the graft may be tailored for different properties, including hydrophobicity, friction coefficient, electroosmotic mobilities and electrophoretic separations. The invention has particular utility in tailoring surface chemistries in ocular lenses and polymer microdevices.



(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
8 April 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP03/15192

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C08J/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 378 512 A (CIBA GEIGY AG) 18 July 1990 (1990-07-18)	1-18
Y	page 2, line 36 -page 3, line 15 page 3, line 30 -page 4, line 19 page 4, line 48 -page 7, line 57; claims; example 15	19-30
Y	COOPER MC DONALD J ET AL: "FABRICATION OF MICROFLUIDIC SYSTEMS IN POLY(DIMETHYLSILOXANE)" ELECTROPHORESIS, WEINHEIM, DE, vol. 21, 2000, pages 27-40, XP002909207 ISSN: 0173-0835 cited in the application page 29, left-hand column, last paragraph -page 33, left-hand column, paragraph 1 page 38, left-hand column, last paragraph -page 39, left-hand column, paragraph 1	19-30

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

2 February 2004

Date of mailing of the international search report

13/02/2004

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US93/15192

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